IQN17 and the D10 peptides were synthesized by FMOC peptide chemistry. They have an acetylated N-terminus and a C-terminal amide. IQN17 contains 29 residues derived from GCN4-pI_QI on the N-terminus and 17 residues from the C-terminus of N36 on the C-terminus. There is one residue overlap between GCN4-pI_QI and the N36 region, making the peptide 45 residues long. To improve solubility, three amino-acid substitutions were made in the GCN4-pI_QI region of IQN17, as compared to the original GCN4-pI_QI sequence (Eckert, D.M. *et al.*, *J. Mol. Biol., 284*:859-865 1998). These substitutions are L13E, Y17K, and H18K. Thus, the sequence of IQN7 is:

12 ac-RMKQIEDKIEEIESKQKKIENEIARIKKLLQLTVWGIKQLQARIL-am (SEQ ID NO: 1)

(ac- represents an N-terminal acetyl group and -am represents a C-terminal amide), with the HIV portion underlined. For mirror-image phage display, IQN17 was synthesized using D-amino acids (for amino acid residues that contain a second chiral center, such as Ile and Thr, the exact mirror image of the naturally occurring amino acid residue is used to create the D-version of the target). In addition, the N-terminus of the peptide was biotinylated using NHS-LC-biotin II (Pierce, catalog #21336). Between the biotin and the IQN17 sequence was a three amino acid linker of GKG, with the lysine in the naturally-occurring L-form. This lysine was inserted as a trypsin recognition site.

In the Claims

Please amend Claims 39, 41 and 44. Amendments to the claims are indicated in the attached "Marked Up Version of Amendments" (pages iii-iv).

13 39. (Amended) A fusion protein of Claim 38 wherein the portion of the N-peptide region of HIV gp41 comprises the following 24 amino acid residues of HIV:
SGIVQQQNNLLRAI EAQQHLLQLT (SEQ ID NO: 21).